5. The patient levitation apparatus of claim 4, wherein the plenum member further includes an intake port for receiving the flow of pressurized air.

6. The patient levitation apparatus of claim 5, wherein the patient board includes an intake port hole adapted for receiving the intake port of the plenum member.

7. The patient levitation apparatus of claim 4, wherein the flow of pressurized air is delivered from a blower motor through an air hose.

REMARKS

Entry of the attached substitute specification and the foregoing, and reexamination and reconsideration of the subject application, as amended and in light of the remarks which follow, are respectfully requested.

Claims 1-3 were pending in the present application at the time of the Office Action. The Patent Office rejected claims 1-3, under 35 U.S.C. §102(b) as purportedly being anticipated U.S. Patent No. 3,481,324 to Talbot et al. (the "Talbot '324 Patent"). By the present amendment, claims 1-3 have been cancelled without prejudice. However, Applicant respectfully submits that new claims 4-7 are patentable over the cited art and other art of record.

I. The Claims Define Patentable Subject Matter

A. Paragraph 7 Rejection of Claims 1-3

The Patent Office rejected claims 1-3 as purportedly being anticipated the Talbot '324 Patent. By the present amendment, Applicant has respectfully requested the cancellation of claims 1-3 without prejudice, and submitted new independent claim 4, of which new claims 5-7 are dependent. Applicant respectfully submits that claim 4 is patentable over the reference cited and the art of record.

1. Claim 4

Claim 4 is directed to a patient levitation apparatus for a patient. The patient levitation apparatus is comprised of a patient board and a plenum member. The patient board has a patient side and a bottom. The plenum member is attached to the bottom of the patient board. Furthermore, the plenum member is adapted to receive a flow of pressurized air and release the flow through a plurality of holes in the plenum member to provide a layer of air below the patient board supporting the patient.

2. The Talbot '324 Patent

The Talbot '324 Patent is directed to a ballistocardiograph apparatus. As described in Col. 2, lines 21-61, the ballistocardiograph apparatus 10 is comprised of float 12 which is positioned over plenum 14 which forms the top of the table structure disclosed. Talbot teaches that the plenum 14 consists of a rectangular framework employing a pair of side rails 36 and end cross members 38 with intermediate cross members 40. The plenum 14 can be pressurized with air introduced through an air inlet 56. As described in Col. 2, lines 51-52, a plurality of air passages 48 permit air to escape upwardly from the plenum 14 to raise the float 12. Thus, Talbot describes that float 12 and plenum 14 are indeed two separate and individual components of the ballistocardiograph apparatus 10.

3. Claim 4 is patentable over the Talbot '324 Patent

It is well settled that for a claim to be anticipated, each and every element of that claim must be shown in a prior art reference, either explicitly or under principles of inherency. *In re Schreiber,* 128 F.3d 1473, 1477 (Fed. Cir. 1997). It is also well settled that the prior art

reference must be enabling, placing the allegedly disclosed matter in the possession of the public. *Akzo v. U.S. Int'l Trade Comm'n,* 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986).

Claim 4 is patentable over the Talbot '324 Patent. As described above, claim 4 is directed to a patient levitation apparatus wherein a plenum member is attached to the patient board. The plenum member is attached such that a plenum area is created below the patient board, allowing for the introduction of pressurized air which is released downwardly through the bottom of the plenum member. The release of the pressurized air creates a layer of air beneath the levitation apparatus, raising the apparatus off of the bed, gurney, examination table or other hard surface.

In stark contrast to the present invention, Talbot teaches an apparatus wherein the float is not attached to the plenum, and the plenum is part of a table that directs air upwardly beneath the float, in an area greater than that which the float covers. The Talbot '324 Patent apparatus is comprised of multiple, independent and separated components. The Talbot '324 Patent does not teach, disclose or suggest a patient levitation apparatus, wherein the plenum member is attached to the bottom of the patient board, and the plenum member is adapted to receive a flow of pressurized air and release the flow through a plurality of holes in the plenum member to provide a layer of air below the patient board supporting the patient.

For similar reasons as discussed above with respect to the Talbot '324 Patent, claim 4 is also patentable over U.S. Patent No. 4,805,626 to DiMassimo et al., disclosing a patient bed supported by air directed upwardly from a support table as described in Col. 4, lines 41-50, and made art of record by the Patent Office.

Applicant, therefore, respectfully submits that claim 4 is in condition for allowance. Accordingly, claims 5-7 which variously depend on claim 1, should also be placed in condition for allowance.

CONCLUSION

Applicant respectfully submits that this application is in condition for allowance, and reconsideration and allowance of the application is respectfully requested. If the Examiner believes that prosecution might be advanced by discussing the application with Applicant's counsel, in person or over the telephone, we would welcome the opportunity to do so.

In the event any other fees are due, the Commissioner is hereby authorized to charge the undersigned's Deposit Account No. 08-3436.

Respectfully submitted,

Date: November 4, 2002

By: _____
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Attachment B - Marked-Up Version of Substitute Specification

~~SPECIFICATION~~
~~TITLE OF INVENTION~~

PATIENT LEVITATION APPARATUS FOR PATIENT TRANSFER OR LINEN CHANGING

BACKGROUND OF THE INVENTION

Hospitalized pre and post operative patients are generally subjected to great pain and discomfort when they are required to be moved from their bed to a gurney and from a gurney to an X-ray, Cat Scan, MIR, etc. examination table. Currently they are dragged, lifted, or shoved from one device to the other, in most cases by three, four or more attendants, attendants who suffer lower back pain injuries from doing the lifting and transfer of patients.

BRIEF SUMMARY OF THE INVENTION

A patient levitation apparatus for a patient is disclosed. The patient levitation apparatus is comprised a patient board having a patient side and a bottom, and a plenum member attached to the bottom of the board, wherein the plenum member is adapted to receive a flow of pressurized air and release the flow through a plurality of holes in the plenum member to provide a layer of air below the patient board supporting the patient.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention can be more fully understood by reading the following detailed description of the presently preferred embodiments together with the accompanying drawings, in which like reference indicators are used to designate like elements, and in which:

Fig. 1 is a perspective view of a patient levitation apparatus in accordance with one embodiment of the invention;

Fig. 2 is a side view of a patient levitation apparatus in accordance with one embodiment of the invention; and

Fig. 3 is a bottom view of a patient levitation apparatus in accordance with one embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

~~The~~ Fig. 1 is a perspective view of a patient levitation apparatus ~~consists of~~in accordance with one embodiment of the invention. As shown in Fig. 1, patient levitation apparatus 10 is comprised of patient board 20 and plenum member 40. In this embodiment, patient board 20 is a substantially rigid 70" to 72~~-inch~~" by 20" to 22", three-eights or quarter inch thick, plastic board ~~on which a patient~~that is approved for hospital use. It should be appreciated that patient board 20 may be constructed in other similar dimensions. A patient may be placed on patient board 20 by ~~asking~~rolling the patient ~~to roll~~ onto their side while ~~the~~ board 20 is placed beneath ~~them~~the patient and which ~~they~~the patient then ~~roll~~rolls back onto~~.~~ patient side 22 of board 20.

Fig. 2 is a side view of the patient levitation apparatus. As shown in Fig. 2, an intake port hole 26 is drilled into the foot of patient board 20. An intake port sleeve 46 is inserted into intake port hole 26. In this embodiment, intake port sleeve 46 is a 1" to 2" plastic port sleeve, glued and screwed into board 20, and adapted to permit the attachment of a hose from a blower motor for delivering a flow of pressurized air to plenum member 40.

~~Attached to the underside of the rigid plastic board~~ Patient board 20 has a bottom 24, to which plenum member 40 is ~~either a vinyl fabric or~~attached. In this embodiment, plenum member 40 is constructed of a thin sheet of rigid plastic ~~which contain numerous small vent holes, which allow an applied~~attached to bottom 22 of patient board 20, wherein a half inch square plastic or rubberized piece of plenum member 40 is glued to the perimeter of bottom 22. Plenum member

40 is adapted to receive a flow of pressurized air ~~supply to escape from the~~through intake port sleeve 46, creating a half inch to the three quarter inch plenum area ~~between the plastic board and fabric or rigid plastic sheet,~~beneath patient board 20. Additional half inch square plastic or rubberized pieces are placed across the 20-22" span of the board at intervals for support and which will permit the constant flow of the pressurized air supply. The braces would be glued to patient board 20 to plenum member 40.

Fig. 3 is a bottom view of a patient levitation apparatus. As shown in Fig. 3, plenum member 40 includes a plurality of vent holes 48, through which the flow of pressurized air received into plenum member 40, through intake port sleeve 46, is designed to be released, or escape, to create a cushion of air beneath patient levitation apparatus 10. In this embodiment, holes 48 are fine, needle sized holes, inserted at every half inch per line and where each following line is spaced a quarter inch apart and where each alternating line is offset a quarter inch. It should be appreciated that other hole spacing patterns for holes 48 may also be employed.

The escape of the pressurized air supply from plenum member 40 through the plurality of holes 48, in a uniform and controlled pattern, ~~which~~ causes ~~the~~patient board 20 and up to a four hundred (400) pound patient to be levitated on a cushion of air that exists between the levitated patient and ~~the~~a bed~~/~~, gurney~~/~~, or examination table.

It should be appreciated that the plenum member may also be comprised of a vinyl fabric stretched across the entire bottom of patient board. In such an embodiment employing vinyl fabric, a six (6) inch flap of the vinyl fabric is folded onto the patient side of the patient board where all edges of the flaps are glued to the top edges of the patient board, creating a half inch

plenum where the pressurized air is applied and permitted to escape from numerous vent holes in the fabric.

The pressurized air is supplied by a small blower motor that is connected to the ~~plastic~~patient board 20 via a plastic hose connected to ~~a 1 to 2 inch in diameter plastic inlet~~intake port sleeve 46 at the foot of the ~~plastic~~ board~~.~~ 20. The pressurized air is supplied by a half horsepower (other sizes can also be used) blower motor, which will be a sealed unit approved for hospital room use. A six foot 1 to 2" diameter plastic hose is employed to connect the blower motor to apparatus 10.

When the blower is activated, the pressurized air enters ~~the~~ plenum member 40 and slowly escapes from ~~the numerous~~ holes ~~in the vinyl or thin rigid plastic containing the air escape holes,~~48, causing the ~~entire~~patient levitation apparatus 10 and patient to be levitated off the bed or other solid surface. A flexible piece of material can be added to the edges of ~~the plastic~~ board 20 to form a "skirt" to create additional lift in circumstances that may require additional space between ~~the~~ board~~/~~ 20, the patient and the bed or examination surface. Once ~~the~~ apparatus 10 and patient are levitated, a single attendant who controls the small pressurized air supply unit is then able to glide the foot of ~~the~~ apparatus 10 from the bed to the gurney and to then glide the head of ~~the~~ apparatus 10 to complete the transfer of the patient. Accordingly, an attendant can glide apparatus 10 and the patient from the bed to the gurney without physical exertion. The air supply is then terminated and the patient is gently lowered onto the gurney and taken to an examination table. The same procedure is employed to return the patient to their bed.

The disclosed medical patient levitation apparatus permits hospital attendants to move patients from a hospital bed to a gurney or examination table on a cushion of air, with only the

slightest physical exertion, without causing discomfort to the patient and without subjecting attendants to lower back injuries from lifting patients from beds to gurneys.

The disclosed apparatus also permits the changing of bed linens while the patient is levitated above the bed itself, on a cushion of air. The same apparatus is also employed in hospitals or for invalid home care, to lift a patient off the bed so that soiled bed linen can be removed and replaced with no discomfort to the patient and no strain on the home care giver or an attendant. The disclosed apparatus will also permit caretakers of bed ridden rehabilitation patients and other bed ridden invalids to have linen changed by a single caretaker without being subjected to discomfort, eliminating the need for visiting nurses or caretakers to assist in this procedure. To change bed linens, either in a hospital or invalid home care setting, the patient is placed on the apparatus and the air supply is applied causing the board and patient to be levitated in place over the bed. The home care or hospital attendant is then able to remove the soiled linen off of the bed and to place clean linen back on the bed by sliding the linen through the cushion of air that is supporting the patient without disrupting the levitation of the board and patient.

~~CROSS REFERENCE TO RELATED APPLICANTS:~~

~~Not applicable~~

~~STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT:~~

~~Not applicable~~

~~REFERENCE TO A MICROFICHE APPENDIX:~~

~~Not applicable~~

~~BACKGROUND OF THE INVENTION:~~

~~Hospitalized pre and post operative patients are generally subjected to great pain and discomfort when they are required to be moved from their bed to a gurney and from a gurney to~~

~~an X-ray, Cat Scan, MIR, etc. examination table. Currently they are dragged, lifted, or shoved from one device to the other, in most cases by three, four or more attendants, attendants who suffer lower back pain injuries from doing the lifting and transfer of patients.~~

~~The disclosed apparatus will dramatically reduce, if not eliminate all patient discomfort when required to be moved to such examination tables and will serve to prevent lower back injuries to hospital or home attendants.~~

~~No similar or comparable patient transfer systems are known to be in current use by hospitals visited by this inventor.~~

~~The disclosed apparatus will also permit caretakers of bed ridden rehabilitation patients and other bed ridden invalids to have linen changed by a single caretaker without being subjected to discomfort, eliminating the need for visiting nurses or caretakers to assist in this procedure~~

~~BRIEF SUMMARY OF THE INVENTION:~~

The use of the disclosed apparatus by hospitals and home care givers will permit attendants to lift and move patients on a comfortable cushion of air, thereby eliminating the current extreme discomfort that patients experience when required to be moved to examination tables. The disclosed apparatus will dramatically reduce, if not eliminate all patient discomfort when required to be moved to such examination tables and will serve to prevent lower back injuries to hospital or home attendants. The disclosed apparatus will virtually eliminate hospital attendants having to be placed on medical leave because of lower back injuries they currently sustain when they are required to lift and shift patients from beds to gurneys. The disclosed apparatus is lightweight and simple to use, so that any hospital employee can be trained and certified in its use. The disclosed apparatus will gently float patients off the surface of the bed

on a cushion of air, in comfort, while a home caregiver or hospital attendant removes and replaces soiled bed linens.

~~BRIEF DESCRIPTION OF THE SEVERAL _____ OF THE DRAWINGS:~~

~~No Drawings Provided.~~

~~DETAILED DESCRIPTION OF THE INVENTION:~~

~~The disclosed apparatus consists of a 72" x 22" (or other similar demension) three eights or quarter inch plastic board that is approved for hospital use. A 1" to 2" plastic intake port hole is drilled into the foot of the board and a 1" to 2" plastic port sleeve to accept a hose, is glued and screwed onto the plastic board to permit the attachment of the hose from the blower motor to be attached to the apparatus.~~

~~On the underside of the above described board, a half inch square plastic or rubberized piece is glued to the undersides perimeter. If vinyl fabric is employed, the fabric is stretched across the entire bottom and a six (6) inch flap is folded onto the top side of the board where all edges of the flaps are glued to the top edges of the board, creating a half inch plenum where the pressurized air is applied and permitted to escape from numerous vent holes in the fabric.~~

~~If the rigid plastic is employed in place of the vinyl fabric, additional half inch square plastic or rubberized pieces are placed across the 20 22" span of the board at intervals for support and which will permit the constant flow of the pressurized air supply. The braces would be glued to the primary apparatus board and to the thin rigid plastic containing the air release holes.~~

~~The vinyl fabric or the rigid plastic contain fine, needle holes at every half inch per line and where each following line is spaced a quarter inch apart and where each alternating line is offset a quarter inch. Other hole spacing patterns can/will also be employed.~~

~~The pressurized air is supplied by a half horsepower (other sizes can also be used) blower motor, which will be a sealed unit approved for hospital room use. A six foot 1 to 2" diameter plastic hose is employed to connect the blower motor to the disclosed apparatus.~~

ABSTRACT OF THE DISCLOSURE:

A patient levitation apparatus for a patient comprising a patient board having a patient side and a bottom, and a plenum member attached to the bottom of the board, wherein the plenum member is adapted to receive a flow of pressurized air and release the flow through a plurality of holes in the plenum member to provide a layer of air below the patient board supporting the patient.

~~Disclosed is a 22" x 72" air cushion levitation apparatus that is used when a medical patient is required to be moved from a hospital bed to a gurney and ten to examination tables. The apparatus is placed under the patient on the bed, a pressurized air supply is then applied, causing the apparatus to vent air from the bottom of the apparatus which causes the apparatus to lift in the air on a cushion of air. An attendant can then glide the apparatus and the patient from the bed to the gurney without physical exertion. The air supply is then terminated and the patient is gently lowered onto the gurney and taken to an examination table. The same procedure is employed to return the patient to their bed.~~

~~The same apparatus is also employed in hospitals or for invalid home care, to lift a patient off the bed so that soiled bed linen can be removed and replaced with no discomfort to the patient and no strain on the home care giver or an attendant.~~